

BOE Notes

FDOT Program Management- Estimates Systems Support

12/13/2017

Fall 2017

Fall 2017 Update Training

BOE & Pay Item Updates

NOTE: Text in brown throughout these notes is updated from Summer 2017 Expo Training.

Welcome to the Fall BOE Update Training. The Basis of Estimates (BOE) is intended to help Designers, Reviewers, Estimators, Bidders, Contractors, and CEIs. Update Training will assume that attendees have a working knowledge of Pay Items, Specifications, and Summary Boxes. Users without this working knowledge are encouraged to attend the BOE Training in January 2018.

Contact Database, aka Contact Management E-Updates and Contact Mailer

Used by Design, Construction, Program Management, and other offices to distribute update notices and important information.

<http://www.fdot.gov/designsupport/contactdatabase.shtml>

Update your preferences every 6-12 months!

Part 1: Introduction will provide updates to general background information contained within the first 10 chapters of the BOE; see the Revision History at the end of each chapter. **Part 2: Pay Item Updates** will provide detailed information about recent/pending pay item changes.

Introduction: The Introduction chapter (Topic No. 600-000-002) was updated to include current web links and references.

Registration/Updates: Please remember to register through the Contact Management/E-Updates for important announcements from Program Management, Design, Construction, and others. This is a “self-service” area. Remember to update your preferences regularly, as new features are added periodically. Within this chapter, only the header dates were updated for 2018.

Units and Precision: With last year’s updates to DQE and the Designer Interface, precision levels with all units were standardized with the pay item’s units. As a quick guide, all units are paid to the nearest whole

Update Outline

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Part 1: Introduction

- Registration/Updates
- Units & Precision
- DQE/FUSE, AASHTOWare TRNSPORT/PrP, Webgate
- Requesting Pay Items: Open/Activate vs New
- Tech Spec vs Plan Notes
- Summary Boxes
- Formatting Pay Items
- Questions?

Part 2: Pay Item Updates

- 100s
 - MOT- Signals
 - MOT- Ped LCDs
 - Clearing & Grubbing
- 200s
- 300s
- 400s
- 500s
- Guardrail
- 600s
- 700s
- 800s- Mass Transit
- 900s
- 1000s- Utility JPA (-56)

number, except for: 0.1: Cubic Yard, Cubic Foot, Ton, MB lumber; 0.01: Acre; and 0.001: Gross Mile Stripe. Do not modify precision through specs or notes. In addition to updating header dates, a reference to Chapter 9 was included for Supplemental Descriptions on Lump Sum pay items. See details below.

Chapter 3- DQE and Chapter 4-Alternative Contracts: Chapter 3 remains a draft for general DQE information. While DQE is currently used by FDOT Estimators, some general terms are defined in this chapter. Chapter 4 includes a reference to Alternative Contracts in the CPAM (Construction Project Administration Manual).

Contact Lists: Chapter 5 was updated to replace names and contact information with links to various office's web pages.

Requesting Pay Items: Several quick questions should always be asked before selecting any pay item:

- Is the specification applicable? The first 3 digits of the pay item number correspond to the applicable specification section.
- Is a design standard applicable? The new numbering system, effective with the 2017-2018 standard plans, will help identify the possible index number(s).
- Is this an APL item?
- Are there any project specific issues to consider for this item?

Based on your project's conditions, request your pay items at Phase II (60% plans)- when you load your pay items. Remember to include the Project Number, requested item description, and specs/details that may be applicable. Do not include BOE pages, standard specs or standard plans; these are available online. Send the request to the District Estimator, with copies to the FDOT Project Manager and BOE Coordinator.

Open/Activate items are generally opened the same day. New/Expanded items may be reviewed by the responsible office- Roadway, Drainages, Structures, etc. Please allow 3-4 days; feel free to follow-up if you haven't received a response by the 4th business day. We all get busy- *friendly reminders* are appreciated.

Updates to Chapter 6 include changing "Trial Pay Items" to "Project Specific Pay Items". When existing pay items do not apply (generally due to specifications or standards that don't apply), a project specific pay item may be provided. Project Specific pay items are also helpful for situations while specifications or standards are under review, and "permanent" pay items are not yet available. Generic Pay Items are normally limited to Utility Applications only, since there is no need to track cost history or specification use for these items.

Need a pay item?

Open/Activate an existing pay item shown in the BOE structure: send an e-mail. Most items are opened the same day.

New/Expanded pay item group: send details, plan sheets, product info, and/or project conditions for the proposed item. Note: a picture/graphic is worth 1,000 words. Draft specs/requirements are also helpful. Please allow 3-5 days for reviews.

Request items at Phase II (60% plans), or as soon as the need is identified!

IMPORTANT: If the specs don't apply, DO NOT USE the pay item!

Tech Specs vs Plan Notes: Before deciding on a Tech Spec or plan note, ask “What does the applicable standard or specification say?” Know the parts of a specification.

Specification considerations:

- Modified Special Provision (MSP) is used to change an existing standard specification.
- Technical Special Provision (TSP) is used to cover situations without existing specs.
- No spec needed; existing spec may include “unless otherwise called for in the plans”

Plan note considerations:

- Never use a plan note to repeat, emphasize, or change a standard or specification.
- Plan notes are great for project specific information
- Quantity or location specific information: Use the Summary Box’s Design Notes column.
- Details, per the specification: “As specified in the plans or contract documents”

In either situation, the Designer is responsible for ensuring that complete requirements (all parts of the specification) are included in the contract documents for each pay item!

Method of Measurement: Beyond unit of measure and whether an item is plan quantity, HOW is it measured? Will it be the horizontal projection (Plan view) area, or measured along a slope? Will the linear measurement include vertical changes, or just station-to-station lengths? When there are multiple runs, is each paid separately?

Basis of Payment: Which items are included, which are paid separately? What is an assembly?

No matter the type of specification or plan detail, Method of Measurement and Basis of Payment must be addressed! Do not allow an incomplete specification to lead to a contractor’s claim.



Summary Boxes and Tabulation Sheets: All pay items must be quantified BY LOCATION on either a Summary Box or Tabulation Sheet. Chapter 8 provides guidance for completing the summary boxes. Each pay item group identifies which summary box should be used.

- Use the Design Notes Column, as needed, to describe location specific conditions
- For Lump Sum pay items, the quantities for the secondary units MUST be identified by location.
- For Lump Sum PROJECTS, all work MUST be quantified by location, using the same summary boxes as a traditional pay item project. Do not total the individual quantities at the pay item level.

Designers and Reviewers are encouraged to submit additional Summary Box examples, both correct and incorrect. Your input is appreciated- share your experiences!

If you have component work, without component plans, insert the applicable sheets in the Roadway plans. For Example: Minor ____ Work (lighting, signals, landscaping). Insert the applicable tabulation sheet(s) behind the Summary Boxes. Some of the guidance in Chapter 8 has been moved/will move to the FDM (FDOT Design Manual). With future updates, the BOE will address “what” to include for Summary Boxes while the FDM will address “where” to include it within the plan set.

EFFECTIVE JULY 2018 lettings, the Summary Boxes will be located at the end of the Roadway component plan set. **DO NOT IMPLEMENT EARLY**, as all projects within a letting must be consistent.

EFFECTIVE JULY 2018 lettings, Designer Interface and Summary Box Instructions for Box Culverts will change. A bulletin will be issued in January 2018; details are briefly summarized below.

Description	Box Culvert, less than 20' length	Bridge Culvert, 20' and greater length
Summary Box	Summary of Box Culverts	Summary of Structure Quantities, Bridge xxxx (Use a separate Summary Box for EACH structure/bridge ID)
Summary Box Location	Structures Component Plans	Structures Component Plans
Plan Details, Design, and Standard Plans* *See the bulletin or FDM for additional details	Structures Component Plans	Structures Component Plans
Pay Items and Quantities (Designer Interface and PrP Category)	Roadway Category (do NOT use Structures Category; Structures ID not applicable)	Structures Category, for Bridge Culvert xxxxxx (Use the Bridge Culvert's Structure ID; a separate category is used for EACH structure/bridge ID)

Summary Boxes for MOT/TTCD Pay Items: Pay items for Temporary Barriers and Pedestrian Longitudinal Channelization Devices have again been updated, due to changes in the Specifications and Design Standards/Standard Plans. See pay item specific details below.

DQE/FUSE, AASHTOWare TRNSPORT/PrP, Webgate, and Designer Interface: Alphabet Soup? No- just a few letters to describe our estimating systems/software. **Design Quantities and Estimates (DQE)** replaced the old AASHTOWare Proposal Estimating System (PES) and Cost Estimating System (CES)- both part of the TRNSPORT software package. The current AASHTOWARE software package is Project Preconstruction (PrP). Other AASHTOWare modules include SiteManager and Bridge Management. Webgate is an FDOT “doorway” into the Designer Interface and Reports menu; all designed and maintained by the FDOT Office of Information Technology (OIT).

Supplemental Descriptions on LS pay items: When a pay item with Lump Sum unit of measure is used, the quantities for separate categories or projects within a proposal do NOT “roll up” for bidding purposes; the contractor bids each quantity separately. In order to help identify which pay item belongs to which category, a supplemental description for each Lump Sum pay item is required. Instructions were clarified within Chapter 9, to ensure that descriptions are complete and consistent across all projects.

Formatting pay items: Chapters 6 and 10 of the BOE provide guidance on formatting pay items. While the first 3 digits correspond with the applicable specification section, the remaining digits vary as needed. Text was updated in Chapter 10 to help clarify displaying pay item numbers in the plans, summary boxes, and various reports. Reminder: do NOT modify pay items in reports.

Push Button and Work Order Contracts (Maintenance, Safety, Construction): Discussions are ongoing for pay items on these types of contracts. Please consider the following when working with these types of contracts. The State Program Management Office (Specifications, Estimates, and Product Evaluation) will be happy to assist with the unique needs of these contract types.

- Lump Sum pay items are not permitted. Alternative pay items with standard units of measure are available for these contracts. (The bidder is unable to bid an unknown quantity or scope of work. Payment for Lump Sum is “per contract”, not per event or work document.) Contact the BOE Coordinator if other pay items are needed.
- Developmental, Experimental, Monitored, or Location Specific pay items are not currently available. These pay items are evaluated/monitored before, during, and/or after placement, to ensure that locations selection and/or performance meets various criteria or other department needs.

Other general reminders:

- If the specification doesn’t apply, don’t use the pay item.
- Temporary application = temporary pay item, i.e. Maintenance of Traffic, Erosion control. The contractor owns and maintains the products.
- Permanent pay item = permanent application. The product remains with the project after final acceptance.
- Don’t select a pay item based on a description that is “close enough”.

Pay Item Updates and Reminders

The Offices of Design, Construction, Traffic Ops, and Program Management are aware of the need to implement new policies, while trying to avoid unnecessary revisions late in the design process. To help balance these needs, the Coordination Team helps to coordinate the implementation of major and minor updates.

Major vs Minor Updates

Major- Policy Change	Minor- Clarification
Bulletin	No Bulletin; affected projects contacted, depending on change and date
Specification or Design Standard Change	No change
PPM/FDM, TEM, or other manual change	No significant change
6-12 month notice, coordinated implementation	Effective dates vary

The updates & reminders below are briefly described; please refer to the Basis of Estimates and/or the applicable specification for complete details. For questions on any of these issues, please contact the person(s) identified in the applicable bulletin, or the BOE Coordinator for other updates. Items without an effective date are intended as reminders for current specifications, standards, or policy.

Item Group	Description	Effective Date	Notes
102-	varies		MOT items are intended for Temporary Use. <ul style="list-style-type: none"> Do not use 102- items for permanent applications. Do not use “permanent” items for temporary applications. Payment includes F&I, maintenance, and removal, per the specifications.
102- 1-	Maintenance of Traffic, LS		Reminder to NOT quantify temporary asphalt or other materials for maintaining pedestrian way.
102- 2-	Special Detour		Usually 1 Special Detour per MOT phase, even if multiple areas use Temporary Asphalt. See BOE details.
102- 14- vs 999-102-	Traffic Control Officer vs Speed and Law Enforcement Officer		Traffic Control Officer: Pay item for the contractor’s use with MOT, in accordance with Section 102 and Index 600. Speed and Law Enforcement Officer: Pay item controlled by the Engineer/CEI, usually on limited access highways, for controlling speed. Contract and payment is between the Department and Law Enforcement agency;

			money does NOT go through the construction contractor.
102-30-	Temporary Highway Lighting	PENDING July 2018?	NOT Contractor lighting for the work zone. Intended for maintaining temporary highway lighting. Criteria is under review. Project Specific approvals by CO Roadway is required.
102- 71-	Temporary Barrier	Jul 2017- July 2018	Description changed from "Temporary Barrier Wall" to "Temporary Barrier". Either description acceptable for transition period.
102-71-	Temporary Barrier	PENDING July 2018?	Old pay items will be blocked. New pay items will be based on type or anchorage condition. Bulletin DRAFT under review.
102- 74-	Channelizing Device	Jan 2018	Change from ED to LF. MUST SHOW locations and quantities in new summary box and on plans. ROADWAY DESIGN BULLETIN 17-10 PROGRAM MANAGEMENT BULLETIN 17-03
102-104- and 102-107-	Temporary Signalization and Maintenance; Temporary Detection and Maintenance		For use AT INTERSECTIONS General guidance: Use BOTH pay items for EACH intersection, for the FULL DURATION of the contract. See BOE details for additional info.
102-120-	Temporary Traffic Signals for Lane Closures on Two-lane, Two-way closure	January 2018	Temp Signals on 2-lane, 2-way closure.
102-	AFAD (Automatic Flagger Assistance Device)		DO NOT USE 102-104 or 102-120 for AFAD (Automatic Flagger Assistance Device) applications; payment is currently included in MOT, LS, per specification.
107-1- and 107-2-	Litter Removal and Mowing		Items are quantified BY LOCATION. For new/widening projects, the locations will vary, due to applicable areas. For resurfacing projects, the locations will normally remain the same throughout the project. See BOE details. PENDING: Current item intended for EXISTING Turf to remain. Updated guidance pending for new Turf (sod or grassing) locations. PENDING: Change to Method of Measurement for January 2019?: SY measurement along slope?
108-	Monitor Existing Structures		Specification limits apply to Inspection Settlement Monitoring. Vibration Monitoring & Groundwater Monitoring require locations shown in the summary box. See PPM/FDM
110- 1- 1	Clearing and Grubbing, LS/AC		Designer enters quantity in acres; contractor bids 1 Lump Sum. Quantities MUST be shown, by

			location and area(s), in summary box. See Program Management Bulletin 16-04.
110- 2-	Selective Clearing and Grubbing, Acre	July 2017	Quantities MUST be shown, by location and area(s), in summary box. See Program Management Bulletin 16-05.
110- 4-	Removal of Concrete	July 2017	Quantify all items by location and area. Plan/horizontal areas for most items. Vertical area (length x height) for most walls. See BOE details.
110- 86-	Delivery of Salvageable Material to FDOT		Designer MUST QUANTIFY the items to be delivered. (Estimator/Bidder needs to know if this is 1 pick-up truck load, or multiple large truck loads.)
121-	Flowable Fill		See BOE. Incidental for most applications. Limited separate payment.
162- and 163- items	Soils- for turf and landscape areas	Pending Jan 2019?	Ongoing specification discussions.
200s	Earthwork		No changes
334- 1-	Superpave Asphalt		Reminder: do not use 334- asphalt for temporary or miscellaneous applications.
337- 7-	Friction Course		High Polymer binders implemented per the specifications and State Materials Office.
350-group	Concrete Pavement		Do NOT use pavement items for bridge decks; there are separate joint items for bridge applications.
400-group	Concrete, per CY		Concrete, by class and application. Do NOT use cubic yard concrete for foundations (other than bridges), pads, or miscellaneous applications. Note: Substructure and Superstructure items are for Bridge use only; do not use for drainage or other roadway applications. PENDING (with Index/Standard Plans): Concrete for endwalls may be moving to Section 430- Drainage Structures.
425-group	Inlets and Manholes		Reminder: If you have minor variations from the design standard, use the standard pay item. Significant design variations may need a project specific pay item, upon review by State Drainage Engineer.
425-group	Gates & Grates		Materials: Bars or Cast metal, depending on application/spec. Grates: Fixed Gates: Hinged Incidental for most applications. Additional pay items available upon request.
430- 94-	Desilting Pipe		Please refer to the BOE for guidance.

			<ul style="list-style-type: none"> • Desilting as part of pipe liner: incidental to liner • Desilting for endwall construction: incidental to endwall • Desilting for pipe inspection: incidental to inspection • Other applications- under review by Construction, Maintenance, and Drainage <p>PENDING: Project Specific pay items.</p>
431-group	Pipe Liner	Pending	<p>Specification under review.</p> <p>Types: Rigid pipe insert or Spray/Applied</p> <p>Purpose: Structural Reinforcement and/or Leak Reduction.</p> <p>Note- there may be significant material options, depending upon needs. Life cycle cost should be considered: Repair/maintenance vs Replacement</p> <p><i>Coordinate with CO Drainage Office, as needed.</i></p>
455-	Piling		Quantify based on the KNOWN lengths shown in the plans; do NOT include any contingency lengths or allowances for splices. All adjustments, per the specifications, will be completed by Construction.
514-	Filter fabric		No separate payment; cost is included in the item to which it is incidental.
517- 72-	Impermeable Liner		Requires project specific approval from State Drainage Office.
520-	Curb		<p>“Curb” definition includes curb & gutter, traffic separator, valley gutter, etc.</p> <p>Asphalt curb pad is included, per spec; plan notes not needed.</p> <p>Effective July 2017: Removal paid under 110-4-group.</p>
530-group	Revetment Systems (Riprap, Gabions, etc.)		For project specific exceptions, please coordinate with the State Drainage Office early in the design process (60% plans).
536-	Guardrail		<p>Changes completed last year, due to updates to design standards.</p> <p>MEASUREMENT: End-to-End length + each end treatment. NO ADJUSTMENT for end anchorage lengths, transition panels, or overlapping/nested panels.</p>
580- 1-	Landscape Complete, Lump Sum		ALL WORK MUST be detailed on the Landscape Tabulation Sheet. Remember to include soil, mulch, and all plants (species, quantity)
580- 2-	Tree Relocation, EA		Estimator/Bidder needs to know the plant species and approximate size.

			Designer MUST show both the current and proposed locations shown on the tabulation sheet.
590- 1	Irrigations System, Lump Sum		Designer MUST quantify all pipe, sprinkler heads, and pump components. Estimator/Bidder needs to know the sizes, lengths, and capacities to be able to price the system.
591- 1-	Irrigation Sleeve		The sleeve is provided for KNOWN future landscaping, when the exact location of an irrigation system is available. DO NOT include a sleeve for “possible” enhancement or at locations where open trench is possible.
630- 2-	Conduit		Payment is based on the horizontal box-to-box length. No adjustment for vertical sweeps. Open Trench: anything under existing turf (pre-construction) Directional Bore: anything under existing pavement (pre-construction) Jack & Bore: Railroad use only. Utilities: No payment under 630; use utility 1000 series items. Drainage: see 430- items.
635-	Pull & Splice Box, Junction Box		QPL Items. DO NOT Restrict products/sizes without approval. Sizes, by application, shown in the specification.
639-	Electrical Power Service		Covers items from the utility to the cabinet (Wire, meter, disconnect, surge protection). Generally includes power supply at 240-480 volts. Does NOT include connections within the signals cabinet or beyond (generally 120 volts or less) PENDING: Separate payment for utility fee reimbursement. Coordination with Utilities Office and others is ongoing.
641-, 649- etc.	Pole Removal		Removal of the pole includes “all attachments”.
654-	Mid-Block Crossing	Pending RRFB for July 2018?	Includes In-Roadway Lights, Pedestrian Hybrid Beacon, Rectangular Rapid Flashing Beacon (RRFB), and Pedestrian Hybrid Beacon. Items/assemblies are ALL INCLUSIVE for use at mid-block crossings. PENDING: RRFB at roundabouts or additional components for assembly.

			CURRENT: 1 assembly per crossing, includes both sign assemblies, controller, ped detectors, etc.
660-	Vehicle Detectors		Ensure that the number of detectors is clearly shown, for each intersection. Some cabinet products require 1 per intersection, while others are 1 per approach!
695-	Traffic Monitoring Site (TRANSPORTATION STATISTICS OFFICE ONLY)		3 types of Traffic Monitoring Sites are possible: <ul style="list-style-type: none"> • Transportation Statistics (695) • Traffic Ops (other 600 series) • Motor Carrier Compliance/MCSAW (770) The 695 items are for TranStat Office use only!
700-	Signs		Single Post Signs- sizes limited by design standards! Electronic Signs: Discussion pending about placement in the signals/signing component plans.
706-	Reflective Pavement Markers (RPMs)		No separate payment under 706; normal installation is included under Final Surface pavement markings, 710-90.
707-	Internally Illuminated RPMs		Currently Developmental Specification (Project Specific approvals). PENDING: Standard Spec? Criteria?
710-, 711-, 713-	Pavement Markings		BOE has many possible combinations. PPM, MUTCD, and Design Standards restrict which items may be available. Please ask if you do not see a needed item.
715-	Lighting		Utility Conflict light pole (shorter vertical pole with longer arm) Ongoing: Guidance for adding Arm and Luminaire to an existing pole or mast arm. Ongoing- upgrades to existing light poles to convert to LED luminaire. Additional items upon request!
750-, 751-	Architectural and Enhancement items		Additional items added upon request. Coordinate with BOE Coordinator for "Special" or unique items of work; a project specific pay item may be more appropriate.
770-	MCSAW- Motor Carrier Size and Weight	Pending	Pay item structure under review. Coordinate with MCSAW or BOE Coordinator.
800s	Mass Transit		Additional items added upon request.
900s	Special, Developmental, and Monitored items		Additional items added upon request. Must be coordinated with the Monitor. Developmental Spec or Tech Spec, depending upon the pay item.

1000s	Utility Items		Intended for JPA UWHC and phase -56. No applicable specifications or design standards. Tech Specs and/or plan details are required to describe work, materials, construction, measurement, and payment. Additional items added upon request. Generic Pay Items (see BOE Chapter 6) are also available.
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Additional Notes:

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